

WHAT IS CLAIMED IS:

1. An electron gun for a cathode ray tube comprising:

a cathode for emitting an electron beam;

a plurality of grid electrodes aligned sequentially from the cathode, one

of the grid electrodes including a plurality of focusing electrodes that are
mounted with at least one predetermined gap therebetween;

a support for fixing the grid electrodes in their aligned arrangement; and

a shield electrode mounted covering the at least one gap of the
focusing electrodes and extending a predetermined distance over the focusing
electrodes.

2. The electron gun of claim 1 wherein a plurality of openings are
formed at predetermined distances through the shield electrode, and the shield
electrode is cylindrical and is mounted on the focusing electrodes covering the
at least one gap.

3. The electron gun of claim 2 wherein the shield electrode is a single
unit.

4. The electron gun of claim 2 wherein the shield electrode is formed by
a plurality of separate elements.

5. The electron gun of claim 1 wherein the at least one gap between
the focusing electrodes is denoted by g_1 , and the at least one gap satisfies the
following condition:

$$4\text{mm} < g_1 < 12\text{mm}$$

6. The electron gun of claim 1 wherein the plurality of focusing

electrodes comprise first and second separated focusing electrodes that satisfy the following condition:

$$b \text{ mm} > 0.5a \text{ mm}$$

where (a) is an inner diameter of the first separated focusing electrode and (b) is a length of the first separated focusing electrode in an axial direction of the CRT.

7. The electron gun of claim 2 wherein the shield electrode satisfies the following condition:

$$0.25d \text{ mm}^2 < c \text{ mm}^2 < 0.75d \text{ mm}^2$$

where (c) is a total area of the openings and (d) is an area of the shield electrode minus the area occupied by the openings.

8. The electron gun of claim 2 wherein a thickness (t) of the shield electrode satisfies the following condition:

$$0.06\text{mm} < t < 0.4\text{mm}$$

9. The electron gun of claim 2 wherein distances g2 between centers of the openings satisfy the following condition:

$$0.3\text{mm} < g2 < 0.75\text{mm}$$

10. The electron gun of claim 6 wherein a distance between openings formed in the shield electrode corresponding to where the shield electrode covers the first separated focusing electrode is smaller than a distance between openings formed in the shield electrode corresponding to where the shield electrode covers the second separated focusing electrode.

11. The electron gun of claim 1 wherein the shield electrode is made of a non-magnetic material.

12. The electron gun of claim 2 wherein the openings are circular.

13. The electron gun of claim 2 wherein the openings are multilateral.

14. The electron gun of claim 1 wherein the shield electrode directly contacts the focusing electrodes.

5 15. The electron gun of claim 1 wherein the shield electrode is provided at a predetermined distance from the focusing electrodes by being fixedly mounted to the support through protrusions integrally formed to the shield electrode.

16. The electron gun of claim 4 wherein the shield electrode is fixedly mounted to the support through protrusions integrally formed to the shield electrode.

17. The electron gun of claim 1 wherein the cathode emits a single electron beam.

18. A cathode ray tube comprising:

15 an electron gun including a cathode for emitting an electron beam, a plurality of grid electrodes aligned sequentially from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween, a support for fixing the grid electrodes in their aligned arrangement, and a shield electrode mounted
20 covering the at least one gap of the focusing electrodes and extending a predetermined distance over the focusing electrodes;

a neck, within which the electron gun is mounted; and

a scanning velocity modulation coil mounted on an outer circumference of the neck corresponding to the positioning of the at least one gap of the

focusing electrodes.

19. The cathode ray tube of claim 18 wherein a plurality of openings are formed at predetermined distances in the shield electrode, and the shield electrode is cylindrical and mounted on the focusing electrodes covering the gap(s).

20. The cathode ray tube of claim 18 wherein the cathode ray tube is a projection-type cathode ray tube, in which a single electron beam is emitted from the cathode.